

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Mark Heimbaugh
Application No.: 09/820,415

Confirmation No.: 5595
Group Art Unit: Unknown

Filed: March 29, 2001

Examiner: Unknown

For: METHOD AND APPARATUS FOR POWERING VOICE COIL MOTOR
RETRACT CIRCUIT WHILE BRAKING SPINDLE

April 17, 2008

Mail Stop Petition

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**SECOND REQUEST FOR STATUS OF AND DECISION ON PETITION FOR
REVIVAL OF UNINTENTIONALLY ABANDONED PATENT APPLICATION**

Sir:

Applicant respectfully inquires as when a decision can be expected to be received by Applicant on the pending Petition for Revival of Unintentionally Abandoned Patent Application Under 37 CFR 1.137(B) ("Petition"), and Applicant requests a favorable decision on the Petition in due course.

In particular, the Petition, a Request for Continue Examination (RCE), and a Reply to Office Action of March 31, 2004 (Reply) were concurrently filed with the U.S. Patent Office on June 30, 2005 by the Hansra law firm on behalf of Applicant. In response to Applicant having not received a decision on the Petition by July 24, 2007, the undersigned attorney filed a Request for Decision on Petition for Revival of Unintentionally Abandoned Patent Application ("Request") with the U.S. Patent Office on July 24, 2007 and attached thereto a copy of the earlier filed Petition. Another copy of the Petition, the RCE, and the Reply as-filed on June 30, 2005 is attached hereto.

During a subsequent telephone conference by the undersigned attorney with Petitions Examiner Monica Graves on November 7, 2007, it was learned that the U.S. Patent Office had received the Petition, the RCE, and the Reply as evidenced by the U.S. Patent Office having charged Applicant the required Petition fee and the required RCE fee on July 7, 2005. It was further learned that the US Patent Office had subsequently lost the Petition, the RCE, and the Reply after having charged Applicant the required fees for each. Although Petitions Examiner Monica Graves stated that the U.S. Patent Office database shows that Applicant was charged the Petition fee and the RCE fee, which again evidences receipt of those documents by the U.S. Patent Office, Applicant has attached hereto an August 24, 2005 dated printout by Applicant

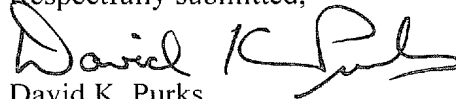
In re: Mark Heimbaugh
Application No.: 09/820,415
Filed: March 29, 2001
Page 2 of 2

from the U.S. Patent Office's Revenue Accounting and Management System showing that Applicant was charged the Petition fee and the RCE fee on July 7, 2005.

Further evidence of the U.S. Patent Office's receipt of the Petition, the RCE, and the Reply is provided by the attached copy of the mailing receipt card which is postmarked July 11, 2005 by the U.S. Patent Office as having received: 1) Petition for Revival of Unintentionally Abandoned Patent Application under 27 CFR Sec. 1.137(B) (2 pages); 2) Form PTO-2038 for Petition for Revival of Unintentionally Abandoned Patent Application (1 page); 3) Request for Continued Examination (RCE) Transmittal (2 pages); 4) Form PTO-2038 for Request for Continued Examination (1 page); and 5) Reply to Office Action of March 31, 2004 (13 pages).

Petitions Examiner Monica Graves indicated during the telephone conference on November 7, 2007 that Applicant could expect a decision on the Petition by December 2007. As of this date, no decision has been received. Accordingly, Applicant hereby requests from the U.S. Patent Office a response as to when a decision on the Petition can be expected, and requests a favorable decision reviving the unintentionally abandoned patent application responsive to the Petition, reopening prosecution responsive to the RCE, and entry of the Reply which were all filed with the US Patent Office on June 30, 2005.

Respectfully submitted,



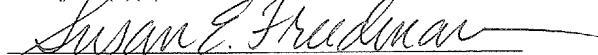
David K. Purks
Registration No. 40,133
Attorney for Applicant

USPTO Customer No. 73463

Myers Bigel Sibley & Sajovec, P.A.
P. O. Box 37428, Raleigh, NC 27627
Telephone: 919/854-1400
Facsimile: 919/854-1401

CERTIFICATION OF TRANSMISSION

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4) to the U.S. Patent and Trademark Office on April 17, 2008.



Susan E. Freedman

Date of Signature: April 17, 2008

U.S. PATENT AND TRADEMARK OFFICE
REVENUE ACCOUNTING AND MANAGEMENT SYSTEM

CREDIT CARD TRANSACTIONS

Card Number: 8393

Start Accounting Date:
06/01/2005End Accounting Date:
07/30/2005Date/Time of Report: Wed Aug 24
15:04:59 2005

Credit Card Sales

Accounting Date	Create Date	Amount	Fee Code	Name/Number	Attorney Docket Number
06/03/2005	06/02/2005 10:55:06 PM	\$1,400.00			
06/03/2005	06/02/2005 10:56:06 PM	\$30.00			
06/06/2005	06/03/2005 06:08:31 PM	\$1,400.00			
06/08/2005	06/03/2005 06:08:31 PM	\$30.00			
06/07/2005	06/07/2005 01:31:20 PM	\$1,500.00			
06/07/2005	06/07/2005 01:32:08 PM	\$790.00			
06/10/2005	06/09/2005 10:41:50 PM	\$120.00			
06/10/2005	06/09/2005 10:47:40 PM	\$200.00			
06/10/2005	06/09/2005 10:42:40 PM	\$2,000.00			
06/14/2005	06/13/2005 06:53:57 PM	\$1,020.00			
06/14/2005	06/13/2005 08:17:19 PM	\$1,400.00			
06/14/2005	06/13/2005 08:17:19 PM	\$30.00			
06/14/2005	06/14/2005 08:06:49 AM	\$40.00			
06/14/2005	06/14/2005 12:11:40 PM	\$1,400.00			
06/14/2005	06/14/2005 12:11:46 PM	\$30.00			
06/14/2005	06/14/2005 11:32:33 AM	\$790.00			
06/14/2005	06/14/2005 11:32:33 AM	\$130.00			
06/14/2005	06/14/2005 11:32:33 AM	\$650.00			
06/16/2005	06/16/2005 11:24:52 AM	\$1,000.00			
06/16/2005	06/16/2005 11:26:48 AM	\$1,590.00			
06/16/2005	06/16/2005 12:10:55 PM	\$180.00			
06/21/2005	06/20/2005 05:20:13 PM	\$1,500.00			
06/21/2005	06/20/2005 05:21:02 PM	\$400.00			
06/21/2005	06/20/2005 05:21:32 PM	\$150.00			
06/28/2005	06/27/2005 07:17:13 PM	\$1,400.00			
06/28/2005	06/27/2005 07:17:13 PM	\$30.00			
07/06/2005	07/06/2005 08:29:52 AM	\$1,400.00			
07/06/2005	07/06/2005 08:29:52 AM	\$30.00			
07/07/2005	07/06/2005 06:44:41 PM	\$1,500.00	1453	09820415	3123-347
07/07/2005	07/06/2005 06:44:41 PM	\$790.00	1801	09820415	3123-347
07/12/2005	07/12/2005 10:17:23 AM	\$790.00			
07/12/2005	07/12/2005 10:17:23 AM	\$1,020.00			
07/13/2005	07/13/2005 05:14:17 AM	\$325.00			
07/14/2005	07/14/2005 02:41:48 PM	\$800.00			
07/14/2005	07/14/2005 02:41:48 PM	\$2,100.00			
07/14/2005	07/14/2005 02:41:48 PM	\$1,020.00			
07/14/2005	07/13/2005 09:41:42 PM	\$2,700.00			
07/14/2005	07/13/2005 09:41:42 PM	\$200.00			
07/14/2005	07/13/2005 09:41:42 PM	\$1,020.00			
07/18/2005	07/15/2005 05:05:01 PM	\$1,400.00			
07/18/2005	07/15/2005 05:05:01 PM	\$30.00			
07/19/2005	07/19/2005 07:23:18 AM	\$180.00			
07/22/2005	07/22/2005 01:09:00 PM	\$120.00			
07/22/2005	07/22/2005 01:10:54 PM	\$300.00			
07/25/2005	07/25/2005 08:50:41 PM	\$1,400.00			
07/25/2005	07/25/2005 08:50:41 PM	\$30.00			
07/27/2005	07/27/2005 01:21:05 PM	\$120.00			

input from
Paul

http://ram.uspto.gov:8888/RamReports/cgi-bin/MiscReports/FindCreditCardTranReport.cgi?ReportId=01... 8/24/2005

Initial: PSH

Date: June 30, 2005

PTO Stamp indicates receipt of: ☒ Patent Matter ☐ Trademark Matter

Application Docket No.: 3123-347

Applicant: HEIMBAUGH

Title or Mark: "METHOD AND APPARATUS FOR POWERING VOICE COIL MOTOR RETRACT
CIRCUIT WHILE BRAKING SPINDLE"

Serial No./Reg. No.: 09/820,415

Filed/Issued Date: 03/29/2001

☒ Certificate of Mailing

☐ Express Mail No.:

☐ Check

LIST ALL DOCUMENTS BEING SENT TO PATENT OFFICE:

Petition for Revival of Unintentionally Abandoned Patent Application Under 37 CFR § 1.137(B) (2 pages)
Form PTO-2038 for Petition for Revival of Unintentionally Abandoned Patent Application (1 page)
Request For Continued Examination (RCE) Transmittal (2 pages)
Form PTO-2038 for Request For Continued Examination (1 page)
Reply to Office Action of March 31, 2004 (13 pages)

Initial: PSH

PTO Stamp indicates receipt of:

☒ Patent Matter ☐ Trademark Matter

Date: June 30, 2005

Application Docket No.: 3123-347

Applicant: HEIMBAUGH

Title or Mark: "METHOD AND APPARATUS FOR POWERING VOICE COIL MOTOR RETRACT
CIRCUIT WHILE BRAKING SPINDLE"

Serial No./Reg. No.: 09/820,415

Filed/Issued Date: 03/29/2001

☒ Certificate of Mailing

☐ Express Mail No.:

☐ Check

RECEIVED

JUL 11 2005



LIST ALL DOCUMENTS BEING SENT TO PATENT OFFICE:

Petition for Revival of Unintentionally Abandoned Patent Application Under 37 CFR § 1.137(B) (2 pages)
Form PTO-2038 for Petition for Revival of Unintentionally Abandoned Patent Application (1 page)
Request For Continued Examination (RCE) Transmittal (2 pages)
Form PTO-2038 for Request For Continued Examination (1 page)
Reply to Office Action of March 31, 2004 (13 pages)

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:

HEIMBAUGH

Serial No.: 09/820,415

Filed: 03/29/2001

Atty. Docket No.: 3123-347

For: "METHOD AND APPARATUS
FOR POWERING VOICE COIL
MOTOR RETRACT CIRCUIT
WHILE BRAKING SPINDLE"

Mail Stop Petition

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Group Art Unit: 2651

Examiner: Wong, Kin C.

PETITION FOR REVIVAL OF
UNINTENTIONALLY ABANDONED
PATENT APPLICATION
UNDER 37 CFR § 1.137(B)

CERTIFICATE OF MAILING

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS
BEING DEPOSITED WITH THE UNITED STATES POSTAL
SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE
ADDRESSED TO: MAIL STOP PETITION,
COMMISSIONER FOR PATENTS, P.O. BOX 1450,
ALEXANDRIA, VA 22313-1450, ON THIS 30th DAY OF
JUNE, 2005.

Tejpal S. Hansra
Tejpal S. Hansra

Dear Sir:

Applicant hereby petitions for revival of the above-identified patent application. The application was unintentionally abandoned, since a reply to the final Office Action dated March 31, 2004 was not filed.

In accordance with 37 CFR § 1.137(b), a Reply to the Office Action dated March 31, 2004 is being submitted herewith, along with a Request for Continued Examination (RCE) and associated fee.

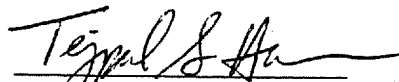
Since this utility patent application was filed after June 8, 1995, no terminal disclaimer is required.

I hereby state that the entire delay in filing the required reply from the due date for the required reply until the filing of a grantable petition under 37 CFR § 1.137(b) was unintentional.

Applicant hereby authorizes the Commissioner to charge the credit card identified on the enclosed Form PTO-2038 in the amount of \$1500.00 for the petition fee, as set forth in 37 CFR § 1.17(m) (Fee Code 1453). In addition, the Commissioner is hereby authorized to debit Deposit Account No. 50-2198 for any fee deficiencies associated with filing this paper.

A representative from the U.S. Patent and Trademark Office is invited to contact the undersigned regarding any matters relating to the present application.

Respectfully submitted,



Tejpal S. Hansra

Registration No. 38,172

Hansra Patent Services

4525 Glen Meadows Place

Bellingham, WA 98226

(360) 527-1400

Date: JUNE 30, 2005

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

United States Patent and Trademark Office

Credit Card Payment Form

Please Read Instructions before Completing this Form

Credit Card Information

Credit Card Type: ☒ Visa ☐ MasterCard ☐ American Express ☐ Discover

Credit Card Account #: [REDACTED]

Credit Card Expiration Date: [REDACTED]

Name as it Appears on Credit Card: Tejpal S. Hansra

Payment Amount: \$ (US Dollars): \$1,500.00

Cardholder Signature: *Tejpal S. Hansra*

Date: June 30, 2005

Refund Policy: The Office may refund a fee paid by mistake or in excess of that required. A change of purpose after the payment of a fee will not entitle a party to a refund of such fee. The office will not refund amounts of \$25.00 or less unless a refund is specifically requested, and will not notify the payor of such amounts (37 CFR § 1.26). Refund of a fee paid by credit card will be issued as a credit to the credit card account to which the fee was charged.

Service Charge: There is a \$50.00 service charge for processing each payment refused (including a check returned "unpaid") or charged back by a financial institution (37 CFR § 1.21 (m)).

Credit Card Billing Address

Street Address 1: 4525 Glen Meadows Place

Street Address 2:

City: Bellingham

State/Province: WA

Zip/Postal Code: 98226

Country: U.S.A.

Daytime Phone #: (360) 527-1400

Fax #: (360) 527-1450

Request and Payment Information

Description of Request and Payment Information:

Fee associated with Fee Code 1453 - Petition to revive unintentionally abandoned application - \$1,500.00

☒ Patent Fee

☐ Patent Maintenance Fee

☐ Trademark Fee

☐ Other Fee

Application No. 09/820,415

Application No.

Application No.

IDON Customer No.

Patent No.

Patent No.

Registration No.

Attorney Docket No. 3123-347

Identify or Describe Mark

If the cardholder includes a credit card number on any form or document other than the Credit Card Payment Form, the United States Patent and Trademark Office will not be liable in the event that the credit card number becomes public knowledge.

REQUEST FOR CONTINUED EXAMINATION (RCE) TRANSMITTAL

Address to:
Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	09/820,415
Filing Date	03/29/2001
First Named Inventor	HEIMBAUGH
Art Unit	2651
Examiner Name	Wong, Kin C.
Attorney Docket Number	3123-347

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application. Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO).

1. Submission required under 37 CFR 1.114

a. ☐ Previously submitted

- i. ☐ Consider the amendment(s)/reply under 37 CFR 1.116 previously filed on _____
(Any unentered amendment(s) referred to above will be entered).
- ii. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- iii. ☐ Other _____

b. ☒ Enclosed

- i. ☒ Amendment/Reply to Office Action of March 31, 2004
- ii. ☐ Affidavit(s)/Declaration(s)
- iii. ☐ Information Disclosure Statement (IDS)
- iv. ☐ Other

2. Miscellaneous

- a. ☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)
- b. ☐ Other _____

3. Fees The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

- a. ☒ Payment by credit card (Form PTO-2038 enclosed)
 - i. ☒ RCE fee required under 37 CFR 1.17(e)
 - ii. ☐ Extension of time fee (37 CFR 1.136 and 1.17)
 - iii. ☐ Other
- b. ☐ Check in the amount of \$ _____ enclosed
- c. ☒ The Director is hereby authorized to charge any deficiencies in payment of fees to Deposit Account 50-2198.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

**REQUEST
FOR
CONTINUED
EXAMINATION (RCE)
TRANSMITTAL**

Address to:
Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	09/820,415
Filing Date	03/29/2001
First Named Inventor	HEIMBAUGH
Art Unit	2651
Examiner Name	Wong, Kin C.
Attorney Docket Number	3123-347

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Name (Print/Type)
Tejpal S. Hansra

Registration No. (Attorney/Agent)
38,172

Signature

Tejpal S. Hansra

Date

JUNE 30, 2005

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop ~~RCE~~ ^{PEBX}, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Name (Print/Type)
Tejpal S. Hansra

Signature

Tejpal S. Hansra

Date

JUNE 30, 2005

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

United States Patent and Trademark Office
Credit Card Payment Form
 Please Read Instructions before Completing this Form

Credit Card Information			
Credit Card Type:	<input checked="" type="checkbox"/> Visa	<input type="checkbox"/> MasterCard	<input type="checkbox"/> American Express <input type="checkbox"/> Discover
Credit Card Account #:	[REDACTED]		
Credit Card Expiration Date:	[REDACTED]		
Name as it Appears on Credit Card: Tejpal S. Hansra			
Payment Amount: \$ (US Dollars): \$790.00			
Cardholder Signature: <i>Tejpal S. Hansra</i>		Date: June 30, 2005	
Refund Policy: The Office may refund a fee paid by mistake or in excess of that required. A change of purpose after the payment of a fee will not entitle a party to a refund of such fee. The office will not refund amounts of \$25.00 or less unless a refund is specifically requested, and will not notify the payor of such amounts (37 CFR § 1.26). Refund of a fee paid by credit card will be issued as a credit to the credit card account to which the fee was charged. Service Charge: There is a \$50.00 service charge for processing each payment refused (including a check returned "unpaid") or charged back by a financial institution (37 CFR § 1.21 (m)).			
Credit Card Billing Address			
Street Address 1: 4525 Glen Meadows Place			
Street Address 2:			
City: Bellingham			
State/Province: WA		Zip/Postal Code: 98226	
Country: U.S.A.			
Daytime Phone #: (360) 527-1400		Fax #: (360) 527-1450	
Request and Payment Information			
Description of Request and Payment Information:			
Fee associated with Fee Code 1801 - Request for Continued Examination - \$790.00			
<input checked="" type="checkbox"/> Patent Fee	<input type="checkbox"/> Patent Maintenance Fee	<input type="checkbox"/> Trademark Fee	<input type="checkbox"/> Other Fee
Application No. 09/820,415	Application No.	Application No.	IDON Customer No.
Patent No.	Patent No.	Registration No.	
Attorney Docket No. 3123-347		Identify or Describe Mark	

If the cardholder includes a credit card number on any form or document other than the Credit Card Payment Form, the United States Patent and Trademark Office will not be liable in the event that the credit card number becomes public knowledge.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:

HEIMBAUGH

Serial No.: 09/820,415

Filed: 03/29/2001

Atty. Docket No.: 3123-347

For: "METHOD AND APPARATUS
FOR POWERING VOICE COIL
MOTOR RETRACT CIRCUIT
WHILE BRAKING SPINDLE"

Group Art Unit: 2651

Examiner: Wong, Kin C.

REPLY TO OFFICE ACTION
OF MARCH 31, 2004

CERTIFICATE OF MAILING

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS
BEING DEPOSITED WITH THE UNITED STATES POSTAL
SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE
ADDRESSED TO: COMMISSIONER FOR PATENTS, P.O.
BOX 1450, ALEXANDRIA, VA 22313-1450, ON THIS 30th
DAY OF JUNE, 2005.


Tejpal S. Hansra

Mail Stop Petition

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Dear Sir:

This is a reply to the Office Action dated March 31, 2004 (Paper No. 8). Reconsideration is respectfully requested in view of the following amendments and remarks.

Please note that the **Amendments to the Claims** are reflected in the listing of claims, which begins on page 2 of this paper. Please also note that the **Remarks** begin on page 11 of this paper.

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) An apparatus for retracting a disk drive actuator arm assembly, said actuator arm assembly including a transducer head, wherein said transducer head reads data from and writes data to a disk surface, comprising:

5 a spindle motor which generates a back electromotive force voltage, said spindle motor including spindle motor windings;

a DC-to-DC converter circuit connected to said spindle motor which converts said back electromotive force voltage into an output voltage;

a feedback circuit connected to said DC-to-DC converter and controlling switching thereof;

10 a retract circuit, connected to said DC-to-DC converter and powered thereby; and

a voice coil motor activated by said retract circuit and operating to retract said actuator arm assembly by moving said transducer head from a location above or below a data containing area of said disk surface to a location that is not above or below a data containing area of said disk surface, wherein the spindle motor is braked by shorting the spindle motor windings while the actuator arm assembly is being retracted and while said transducer head is at a location above or below a data containing area of said disk surface.

15

2. (original) The apparatus of claim 1 wherein said DC-to-DC converter includes an inductor, a switch, a diode, and a capacitor.

3. (original) The apparatus of claim 2, wherein windings of said spindle motor are used as said inductor.

4. (original) The apparatus of claim 1, wherein said output voltage is larger than said back electromotive force voltage.

5. (original) The apparatus of claim 1, wherein said retract circuit is connected to an output portion of said DC-to-DC converter and is powered by said output voltage.

6. (original) The apparatus of claim 2, wherein said feedback circuit comprises comparison circuitry for comparing said output voltage of said DC-to-DC converter to a predefined target voltage.

7. (original) The apparatus of claim 6, wherein said feedback circuit opens said switch based upon a comparison of said output voltage to said predefined target voltage.

8. (original) The apparatus of claim 7 wherein said feedback circuit further comprises timing circuitry.

9. (original) The apparatus of claim 8 wherein said timing circuitry has a fixed off-period timer wherein said switch is closed following said fixed off-period.

10. (original) The apparatus of claim 9 wherein said feedback circuit includes low voltage limit circuitry, wherein said switch is closed permanently based upon said output voltage level following said fixed off-period.

11. (original) The apparatus of claim 8 wherein said timing circuitry has a variable off-period timer wherein said switch is closed following said variable off-period.

12. (original) The apparatus of claim 11 wherein said variable off-period is adjusted dependent upon said output voltage of said DC-to-DC converter during said variable off-period.

13. (original) The apparatus of claim 8 wherein said timing circuitry has a variable on-period timer wherein said switch is closed during said variable on-period.

14. (original) The apparatus of claim 13 wherein said variable on-period is adjusted dependent upon said output voltage of said DC-to-DC converter during said variable on-period.

15. (original) The apparatus of claim 11 wherein said timing circuitry has a maximum value for said variable off-period.

16. (original) The apparatus of claim 15 wherein said variable off-period is adjusted based upon said output voltage of said DC-to-DC converter during said variable off-period.

17. (original) The apparatus of claim 16 wherein said switch is closed permanently upon said variable off-period reaching said maximum value.

18. (currently amended) A method for powering a retract circuit in a disk drive, comprising:

detecting that power has been lost to said disk drive;

5 initiating a retract cycle to park an actuator arm assembly, said actuator assembly including a transducer head, wherein said transducer reads data from and writes data to a disk surface;

using a back electromotive force generated from a spinning spindle motor to generate a back electromotive force voltage;

10 implementing a DC-to-DC converter to generate an output voltage higher than the back electromotive force voltage;

activating said retract circuit using said output voltage; and

15 repositioning an actuator arm assembly using said retract circuit while braking the spinning spindle motor, wherein said spindle motor includes spindle motor windings that are shorted in order to brake the spindle motor and wherein said spindle motor is braked while the transducer head is located above or below a data containing area of said disk surface.

19. (cancelled)

20. (cancelled)

21. (original) The method as claimed in Claim 18, wherein said implementing step comprises:

closing a switch in said DC-to-DC converter;

storing energy in an inductor at a first voltage level;

5 opening said switch in said DC-to-DC converter; and

steering said stored energy into a capacitor to store the energy at said output voltage level.

22. (original) The method of claim 18, further comprising comparing said output voltage to a predefined target voltage.

23. (original) The method of claim 22 wherein said activating step is initiated based upon said comparing step.

24. (original) The method of claim 23 further comprising secondly comparing said output voltage to said predefined target voltage following said activating step.

25. (original) The method of claim 24 wherein a permanent brake cycle is initiated based on said secondly comparing step.

26. (currently amended) An apparatus for retracting a disk drive actuator arm assembly, said actuator arm assembly including a transducer head, wherein said transducer head reads data from and writes data to said disk surface, comprising:

retract means for retracting said disk drive actuator arm assembly;

5 motor means for generating a back electromotive force voltage, wherein said motor means includes motor means windings;

converter means for converting said back electromotive force voltage into an output voltage for powering said retract means, wherein said retract means retract said disk drive actuator arm assembly while said motor means are braked, wherein said motor means are braked by shorting the motor means windings while said transducer head is at a location above or below a data containing area of said disk surface; and

10

feedback means for controlling said converter means.

27. (original) The apparatus of claim 26, wherein said feedback means comprises: comparison means for comparing said output voltage to a predefined target voltage;

switch means for switching said converter means; and

5 timer means for timing said switch means.

28. (currently amended) An apparatus for retracting a disk drive actuator arm assembly, said actuator arm assembly including a transducer head, wherein said transducer head reads data from and writes data to said disk surface, comprising:

a spindle motor which generates a back electromotive force voltage, said spindle
5 motor including a spindle motor winding;

a DC-to-DC converter circuit connected to said spindle motor which converts said
back electromotive force voltage into an output voltage;

a feedback circuit connected to said DC-to-DC converter and controlling
switching thereof;

10 a retract circuit, connected to said DC-to-DC converter and powered thereby; and

a voice coil motor activated by said retract circuit and operating to retract said
actuator arm assembly by moving said transducer head from a location above or below a
data containing area of said disk surface to a location that is not above or below a data
containing area of said disk surface, wherein said spindle motor is braked by shorting
15 said spindle motor winding while said actuator arm assembly is being retracted and while
said transducer head is at a location above or below a data containing area of said disk
surface, and wherein said feedback circuit comprises comparison circuitry for comparing
said output voltage of said DC-to-DC converter to a predefined target voltage.

29. (previously presented) The apparatus of claim 28, wherein said feedback
circuit opens said switch based upon a comparison of said output voltage to said
predefined target voltage.

30. (currently amended) A method for powering a retract circuit in a disk drive,
comprising:

detecting that power has been lost to said disk drive;

initiating a retract cycle to park an actuator arm assembly, said actuator assembly
5 including a transducer head, wherein said transducer head reads data from and writes data
to a disk surface;

using a back electromotive force generated from a spinning spindle motor to
generate a back electromotive force voltage, said spindle motor including spindle motor
windings;

10 implementing a DC-to-DC converter to generate an output voltage;

activating said retract circuit using said output voltage;

repositioning ~~an~~ said actuator arm assembly using said retract circuit, wherein
said spindle motor is braked while repositioning said actuator arm assembly by shorting
the spindle motor windings and while said transducer head is at a location above or below
15 a data containing area of said disk surface; and,

comparing said output voltage to a predefined target voltage.

31. (previously presented) The method of claim 30 further comprising secondly
comparing said output voltage to said predefined target voltage following said activating
step.

32. (currently amended) An apparatus for retracting a disk drive actuator arm
assembly, said actuator arm assembly including a transducer head, wherein said
transducer head reads data from and writes data to said disk surface, comprising:

retract means for retracting said disk drive actuator arm assembly;

5 motor means for generating a back electromotive force voltage, wherein said
motor means includes motor means windings and wherein the motor means is braked
while the actuator arm assembly is being retracted by shorting the motor means windings
while said transducer head is at a location above or below a data containing area of said
disk surface;

10 converter means for converting said back electromotive force voltage into an
output voltage for powering said retract means; and

 feedback means for controlling said converter means, wherein said feedback
means comprises:

 comparison means for comparing said output voltage to a predefined
15 target voltage;

 switch means for switching said converter means; and

 timer means for timing said switch means.

33. (currently amended) A method comprising the steps of:

 providing a disk drive having a disk, a spindle motor for rotating the disk, and a
transducer head for reading data from said disk;

 after power has been lost to the disk drive, retracting said transducer head using a
5 back electromotive force generated from the spindle motor while braking the spindle
motor, wherein said spindle motor includes a spindle motor winding and wherein said
spindle motor is braked by shorting the spindle motor winding while the transducer head
is at a location above or below a data containing area of said disk.

REMARKS

Prior to this Reply, Claims 1-18 and 20-33 were pending. Through this Reply, Claims 1, 18, 26, 28, 30, 32 and 33 have been amended, while Claim 20 has been cancelled. No claims have been added. Accordingly, Claims 1-18 and 21-33 are now at issue in the present case.

I. Claim Rejections

The Examiner rejected Claims 1-18 and 20-33 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,889,629 to Patton III (hereinafter "Patton III") in view of U.S. Patent No. 6,594,102 to Kanda et al. (hereinafter "Kanda"). Furthermore, the Examiner rejected Claims 26 and 27 under 35 U.S.C. § 102(b) as being anticipated by Patton III. In addition, the Examiner rejected Claims 28 and 29 under 35 U.S.C. § 102(e) as being anticipated by Kanda.

In response, Applicant has amended Claim 1 to clarify that the spindle motor is braked by shorting one or more spindle motor windings and to clarify that the spindle motor is braked while the transducer head is at a location above or below a data containing area of said disk surface. Applicant believes that the above limitations are not disclosed in Patton III or Kanda.

Specifically, in Col. 6, lines 18-36, Patton III indicates that when microcontroller cannot read a track number and, therefore, is in the parking zone, the microcontroller transfers control to other software processes or ceases operation (Col. 6, lines 22-25). Patton III then provides an example of transferring control or ceasing operation. More specifically, Patton III states that the microcontroller may cause spindle motor driver to short the windings of the spindle motor, thereby generating a braking force (Col. 6, lines 25-29). In contrast to Claim 1, however, Patton

III applies a braking force only after the transducer head has moved into the parking zone (Col. 6, lines 22-25). Applicant submits that Kanda fails to supply the missing limitations.

For at least the above reasons, Applicant submits that Claim 1 is patentably distinguishable from both Patton III and Kanda. For at least the same reasons, Applicant also submits that all claims that depend from Claim 1 are patentably distinguishable from both Patton III and Kanda.

Claims 18, 26, 28, 30, 32 and 33 include limitations somewhat similar to the above-described limitations of Claim 1. Accordingly, for at least reasons similar to those provided with respect to Claim 1, Applicant submits that Claims 18, 26, 28, 30, 32 and 33 (and the claims that depend therefrom) are patentably distinguishable from Patton III and Kanda.

II. Additional Claim Fees

In determining whether additional claim fees are due, reference is made to the Fee Calculation Table (below).

Fee Calculation Table

	Claims Remaining After Amendment		Highest Number Previously Paid For	Present Extra	Rate	Additional Fee
Total (37 CFR 1.16(c))	31	Minus	32	= 0	x \$50 =	\$ 0.00
Independent (37 CFR 1.16(b))	7	Minus	7	= 0	x \$200 =	\$ 0.00

As set forth in the Fee Calculation Table (above), Applicant previously paid claim fees for thirty-two (32) total claims and for seven (7) independent claims. Accordingly, Applicant believes no additional claim fees are due. Nevertheless, the Commissioner is hereby authorized to charge Deposit Account No. 50-2198 for any fee deficiencies associated with filing this paper.

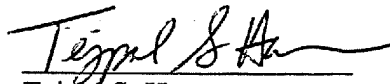
III. Conclusion

It is believed the above comments establish patentability. Applicants do not necessarily accede to the assertions and statements in the Office Action, whether or not expressly addressed.

Applicants believe that the application appears to be in form for allowance. Accordingly, reconsideration and allowance thereof is respectfully requested.

The Examiner is invited to contact the undersigned at the below-listed telephone number regarding any matters relating to the present application.

Respectfully submitted,



Tejpal S. Hansra
Registration No. 38,172
Hansra Patent Services
4525 Glen Meadows Place
Bellingham, WA 98226
(360) 527-1400

Date: JUNE 30, 2005